Course Outline Format

Course title: Human Physiology and Genetics	
Course code: FHS 201	**No. of credits**: 6AB
Department: Nursing	**Faculty**: FOHS
Pre-requisites course codes: B 108 C 109	**Co-requisites course codes**:
Course Coordinator/Instructor: M. Lehohla	
Email: m.lehohla@nul.ls	**Telephone**: ext 7114 or 62722736
Other course instructors:	
Learning hours: theory 3	
Student quota:	
Course type: core course	

Course description:

The course presents fundamental principles of human physiology and genetics in a format suitable for undergraduate students in nursing, pharmacy and allied health professions. The course progresses in three parts, the first part presents basic cellular and molecular biology. Part two analyzes the concept of internal environment, the generalizations and components of homeostatic control systems that regulate the internal environment. The third part describes coordinated body functions, emphasizing how these functions result from the precise control of the internal environment and the interplay between the environment and the organism.

Course objectives:

1. To know how cells function
2. To know communication within the body is achieved and what is its importance
3. To know the normal function of body systems
4. To understand inheritance of traits/characters from parents to offsprings

Course content

1. Basic cell functions
   i. Cell structure and function
   ii. Biological Membranes
   iii. Movement of substances across biological membranes
2. Biological control systems I
   i. Homeostatic mechanisms and cellular communication
   ii. General characteristics of Homeostatic control systems
   iii. The balance concept and homeostasis of chemicals
   iv. Components of homeostatic control systems
3. Biological control systems II
   i. Receptors
   ii. Signal transduction mechanisms for receptors
4. Body systems
   i. Neural control mechanisms
   ii. The sensory systems
   iii. Hormonal control mechanisms

    iv. Muscle
    v. Cardiovascular system
    vi. Respiratory system
5. Cellular and molecular basis of Inheritance
    i. Gregor Mendel and the laws of Inheritance
    ii. The chromosomal basis of inheritance

Course Learning outcomes	Aligned program learning outcomes
1. To know and understand the cellular components and how they work (function) to maintain a relatively constant internal environment 2. To understand factors that affect movement of substances across cells and within the body 3. To understand the modes of communication between different body parts and how this helps in maintaining a relatively constant environment 4. Know how body systems function and how they are controlled so that they function in concert 5. To appreciate the concept of inheritance and how it affect diseases 6. To be able to play a role in health improvement of the society	

Course teaching and learning activities

Course teaching and learning activities;

Lectures

Group work

Course Assessment Methods

Assessment method	**Description**	**Weight**
Assignments	Assignments to encourage self learning 5%	
Group assignments	Assignment to improve team work 5%	
Tests	Individual test for measuring acquired knowledge 20%	**40%**
Exam		**60%**

Essential readings:

Tortora & Derrickson: Principles of Anatomy and Physiology latest ed.

Vander, Sherman Luciano's: Human Physiology – The mechanisms of body function

Thibodeau & Patton: Anatomy & Physiology latest ed.

Means/processes for student feedback on course:

Course Policy:
No direct copying of materials and in the tests is allowed. Student found will face consequences

Additional course Information:

Signature: ____ Date:_________________